CLAIMS

What is claimed is:

1 1.   A method of specifying a structure, within a computer system, of an instance of a

2   class, the method including the step of:

3   associating with said instance of said class an attribute that is not in said class or any

4   superclass of said class, thereby establishing for said instance said structure

5   that includes storage for data associated with said attribute.

1 2.   The method of claim 1 wherein the step of associating further includes

2   the steps of:

3   establishing a property bundle that is associated with one or more attributes that are

4   not in said class or any super class of said class; and

5   associating said instance with said property bundle.

1 3.   The method of claim 2 further comprising the step of:

2   storing within a database, objects that define said instance, said property bundle, and

3   said one or more attributes.

1 4.   The method of claim 1 further comprising the step of:

2   maintaining an object relational mapping system that indicates a correlation between

3   said instance and data stored in a relational database.

1 5.   The method of claim 1 wherein said step of associating includes establishing a pointer

2   from said instance to a property bundle.

1 6.   The method of claim 5 wherein said step of associating includes establishing a pointer

2   from said attribute to said property bundle.

1   7.   The method of claim 1 wherein a property class contains said attribute.

1   8.   The method of claim 1 further including the step of:

2   associating a key with said attribute wherein said key identifies said attribute.

1   9.   The method of claim 8 wherein said key is a user defined key.

1   10.   The method of claim 1 wherein the step of associating further includes the step of:

2   maintaining a table that includes an entry that indicates that said instance is associated

3   with said attribute.

1   11.   The method of claim 10 wherein the step of maintaining a table further includes the

2   step of:

3   maintaining said entry to include a key that identifies said attribute.

1   12.   The method of claim 10 wherein the step of maintaining a table further includes the

2   step of:

3   maintaining said table externally to said instance.

1   13.   The method of claim 1 wherein the step of maintaining a table further includes the

2   step of:

3   maintaining said table internally to said instance.

1   14.   The method of claim 1 wherein the step of associating further includes the steps of:

2   storing into said instance a hash table; and

3   locating an entry in said hash table for said attribute.

1   15.   The method of claim 14 further includes the steps of:

2   receiving data that is designated as a key for locating said entry in said hash table; and

3   using said data as said key to locate said entry without determining whether said data

4   conforms to software rules.

1   16.   The method of claim 1 wherein the class is a file type and said instance is a file of

2   said file type in a file system wherein the step of associating includes associating with

3   said file of said file type an attribute that is not associated with said file type or any

4   super class of said file type.

1   17.   A computer-readable medium carrying instructions for specifying a structure, within a

2   computer system, of an instance of a class, the instructions including instructions for

3   performing the step of:

4   associating with said instance of said class an attribute that is not in said class or any

5   superclass of said class, thereby establishing for said instance said structure

6   that includes storage for data associated with said attribute.

1   18.   The computer-readable medium of Claim 17 wherein the step of

2   associating further includes the steps of:

3   establishing a property bundle that is associated with one or more attributes that are

4   not in said class or any super class of said class; and

5   associating said instance with said property bundle.

1   19.   The computer-readable medium of Claim 18 further comprising instructions for

2   performing the step of:

3   storing within a database, objects that define said instance, said property bundle, and

4   said one or more attributes.

1   20.   The computer-readable medium of Claim 17 further comprising

2   instructions for performing the step of:

3   maintaining an object relational mapping system that indicates a correlation between

4   said instance and data stored in a relational database.

1   21.   The computer-readable medium of Claim 17 wherein said step of associating includes

2   establishing a pointer from said instance to a property bundle.

1   22.   The computer-readable medium of Claim 21 wherein said step of associating includes

2   establishing a pointer from said attribute to said property bundle.

1   23.   The computer-readable medium of Claim 17 wherein a property class contains said

2   attribute.

1   24.   The computer-readable medium of Claim 17 further including instructions for

2   performing the step of:

3   associating a key with said attribute wherein said key identifies said attribute.

1   25.   The computer-readable medium of Claim 24 wherein said key is a user defined key.

1   26.   The computer-readable medium of Claim 17 wherein the step of associating further

2   includes the step of:

3   maintaining a table that includes an entry that indicates that said instance is associated

4   with said attribute.

1   27.   The computer-readable medium of Claim 26 wherein the step of maintaining a table

2   further includes the step of:

3   maintaining said entry to include a key that identifies said attribute.

1 28. The computer-readable medium of Claim 26 wherein the step of maintaining a table

2   further includes the step of:

3   maintaining said table externally to said instance.

1 29. The computer-readable medium of Claim 17 wherein the step of maintaining a table

2   further includes the step of:

3   maintaining said table internally to said instance.

1 30. The computer-readable medium of Claim 17 wherein the step of associating further

2   includes the steps of:

3   storing into said instance a hash table; and

4   locating an entry in said hash table for said attribute.

1 31. The computer-readable medium of Claim 30 further including instructions for

2   performing the steps of:

3   receiving data that is designated as a key for locating said entry in said hash table; and

4   using said data as said key to locate said entry without determining whether said data

5   conforms to software rules.

1

1 32. The method of claim 17 wherein the class is a file type and said instance is a file of

2   said file type in a file system wherein the step of associating includes associating with

3   said file of said file type an attribute that is not associated with said file type or any

4   super class of said file type.